

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-14. (canceled)

15. (currently amended) A position detecting system for detecting a position of a bottom of a contact hole in a circuit component having said contact hole through an insulating film on a surface of a silicon substrate, the system comprising a beam irradiating means for irradiating an electron beam toward said surface of said silicon substrate, a beam scanning means for relatively scanning said electron beam so that said electron beam moves in relation to said surface of said silicon substrate, a voltage applying means for applying a voltage to a rear surface of said silicon substrate which is scanned by said electron beam, so that when said electron beam is bombarded onto a surface of said insulating film, an electric current does not flow in said silicon substrate, but when said electron beam is bombarded onto said surface of said silicon substrate through said contact hole, an electric current flows in said circuit component as the result of said electron beam that flows as said electric current through said silicon substrate to said voltage applying means because of the voltage applied to said rear surface of said silicon substrate, a current detecting means for detecting said electric

current flowing in said circuit component, at said rear surface of said silicon substrate, and a position detecting means for detecting the position of the bottom of said contact hole, with reference to the scanning start position of said electron beam and the position when the detected current changes, the position of the bottom of said contact hole being detected without detecting secondary electrons and reflected electrons,

wherein the system is configured to further detect the position of a gate electrode on a gate oxide film covering a device region confined in said surface of said silicon substrate, wherein when said electron beam is bombarded onto said gate electrode, said electric current does not flow in said silicon substrate, but when said electron beam is bombarded onto said gate oxide film, since said gate oxide film is very thin, said electric current flows in said circuit component as the result of said electron beam that flows as said electric current through said gate oxide film, said device region and said silicon substrate to said voltage applying means because of the voltage applied to said rear surface of said silicon substrate, so that said position detecting means can determine the position of said gate electrode and said device region.

16-20. (canceled)